Results from the BioSense Jurisdiction-Specific Webinars

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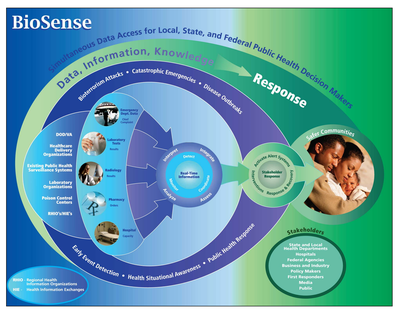
Objective

To present lessons learned from the BioSense jurisdiction-specific webinars conducted in 2007.

Background

- BioSense is the Centers for Disease Control and Prevention (CDC) national near real-time biosurveillance system.
- CDC's BioIntelligence Center (BIC) analysts monitor, analyze, and interpret BioSense data daily and provide support to BioSense users at state and local health departments and facilities sending data.
- The BioSense Application is continually being enhanced in concordance with public health and clinical partners. Ongoing dialogue between the BIC and these partners is required to:
  - Gather user feedback.
  - Understand what would improve system utility.
  - Build collaborative relationships.
  - Develop appropriate jurisdiction-specific communication protocols.
- We identified the need for a forum to discuss jurisdiction-specific data and issues while protecting confidentiality.



Methods

- In February 2007, the BIC began a series of jurisdiction-specific webinars with state and local public health and hospital officials from facilities sending real-time data to BioSense.
- The goals of these webinars were to:
  - Introduce the BIC, state, and local public health and hospital personnel, understand roles, and build relationships.
  - Provide an overview of BIC activities and identify appropriate points of contact for each public health partner.
  - Review the data being received from the jurisdiction and discuss any questions or data validity issues.
  - Examine the BioSense application in detail and gather feedback and ideas for future enhancements.
  - Provide an open forum to discuss relevant issues and experiences.
- We asked the following questions to obtain feedback regarding the BioSense application:
  - What is most useful?
  - What is not useful or confusing?
  - What would you like to see added?
  - What functionalities from the modules developed to display the Department of Veterans Affairs (VA) and Department of Defense (DoD) data are most useful?
- We asked the following questions regarding use of BioSense:
  - Is BioSense being used at the state and local public health levels? If so, how often?
  - Is BioSense being used by hospitals sending data? If so, how often?
  - Have public health and hospital partners been able to successfully use the BioSense Patient identification number (ID) for patient re-identification during state or local public health follow up?
  - What training needs do you have?

Results

- We conducted 19 webinars from February to August 2007.
- 21 state and local public health jurisdictions and 9 hospital systems participated.
- We received the following feedback regarding the BioSense application:
  - Real-time hospital data modules were more heavily used than the VA/DoD modules. Statistical Anomalies, Time Series, and Patient List modules were the most useful modules (Figures 1 and 2).
  - The ability to monitor sub-syndromes improved the utility of the application.
  - VA and DoD data should be integrated with the hospital data to enable common analysis and visualization.
  - Performance and reliability need improvement.
  - Hospital utilization data accuracy and/or interpretability were questionable.
  - Enhanced spatio-temporal analyses and mapping functionality and flexible, customizable querying capabilities were needed (Figure 3).
  - Views of aggregate data from surrounding jurisdictions and integrating laboratory, radiology, and pharmacy data more fully into the application would increase utility.
- We learned the following regarding state and local public health and hospital officials' use of BioSense:
  - 20 of 21 public health jurisdictions had another biosurveillance system in place.
  - 20 of 21 public health jurisdictions wanted to be contacted by the BIC regarding findings of interest (since the BIC reviewed the data on a daily basis) and provided appropriate points of contact.
  - 3 of 21 PH jurisdictions or hospital partners reported using BioSense at least weekly. Other PH jurisdictions used BioSense less frequently as an adjunct to existing syndromic and other surveillance systems and compared BioSense data to these systems for decision making.
  - 1 of 9 hospital systems reported using BioSense at least weekly.
- We learned the following regarding use of the BioSense patient ID for patient re-identification during state or local public health follow-up:
  - 0 public health jurisdictions reported they were able to work with hospital partners to successfully accomplish this function.
  - 1 of 9 hospital systems reported being able to perform this function.
  - Others had either not attempted to perform this function or were unaware/unable.
- Identified training needs included the following:
  - How to use the BioSense patient ID for patient re-identification during state or local public health follow-up.
  - Self-paced, interactive training materials and tools that would enable users to better understand the application features and functionality.

Figure 1. Statistical Anomalies module in the BioSense application (demonstration data)

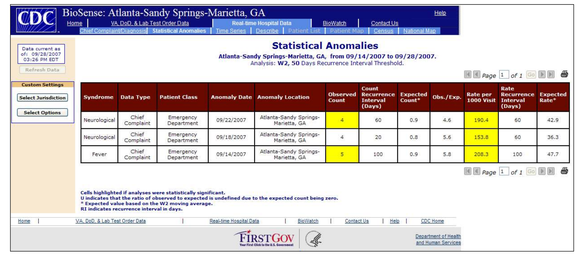


Figure 2. Time Series module in the BioSense application (demonstration data)

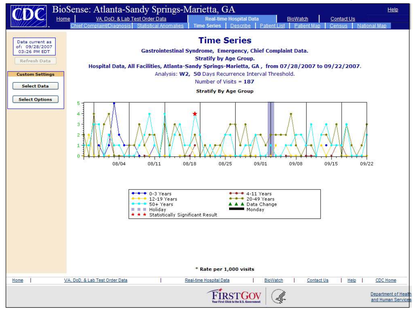
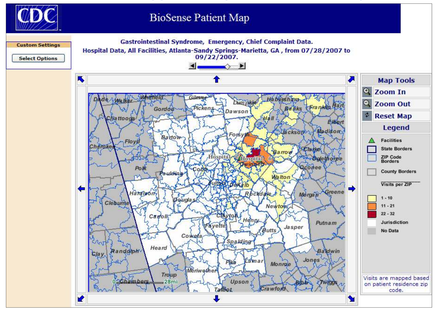


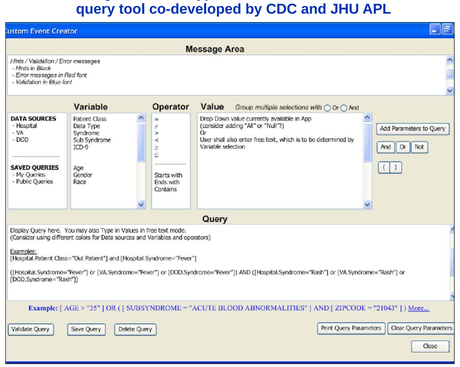
Figure 3. Patient Map module in the BioSense application (demonstration data)



Discussion

- We found that webinars were useful for gathering feedback and facilitating discussion among our partners because they allow for live sharing of jurisdiction-specific presentation materials and viewing of the BioSense application simultaneously by all participants.
- Gathering feedback regarding needed enhancements to improve utility is helping to define future priorities for BioSense application development. We are developing a Custom Event Creator query tool with colleagues from Johns Hopkins Applied Physics Lab (JHU APL) in response to the user identified need for flexible querying (Figure 4). Plans are underway to integrate VA, DoD, and hospital data in the application, as well as to improve mapping and spatial analysis capabilities.
- We are piloting training tools to address the needs identified by our users.
- The webinars sparked productive dialogue and increased collaborations with public health partners

Figure 4. Prototype Custom Event Creator query tool co-developed by CDC and JHU APL



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